



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,179	07/25/2001	James A. Davis	B-4258 618972-1	7157

7590 12/16/2004  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

MOISE, EMMANUEL LIONEL

ART UNIT	PAPER NUMBER
----------	--------------

2136

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/915,179

**Applicant(s)**

DAVIS ET AL.

**Examiner**

Emmanuel L. Moise

**Art Unit**

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,11,12,21-26 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,11,12,21-26 and 32-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

1. This office action is responsive to Applicant's supplemental amendment received on November 1, 2004. Claims 1-6, 11, 12, 21-26 and 32-34 are pending. Claims 7-10, 13-20 and 27-31 were originally canceled (See Preliminary Amendment received on January 17, 2002).
2. The objection to the specification has been withdrawn due to Applicant's amendment.
3. Applicant's arguments filed on November 1, 2004 have been fully considered but they are not persuasive.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Objections***

5. Claim 5 is objected to because it is dependent upon claim 13, a claim that had been canceled. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. Claims 1-6, 11, 12, 21-26 and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Aichelmann (U.S. Patent No. 4,458,349).

As per newly amended claim 1, Aichelmann teaches the claimed method for controlling a magnetoresistive solid-state storage device having a block of ECC, the method comprising the steps of:

accessing a set of the plurality of storage cells (column 4, lines 18-31 );

determining whether information is uncoverable from a block of ECC encoded data stored in the accessed storage cells (column 4, lines 41-65);

Art Unit: 2136

identifying, from the ECC decoding, zero or more failed symbols in the block of ECC encoded data (column 2, lines 59-63), and

“comparing the identified of failed symbols against a threshold value” (column 4, lines 53-57).

Choosing the threshold value to be “in the range of about 50% to about 95% of the maximum number of failed symbols which can be corrected by error correction decoding the block of ECC encoded data” is well within the scope of Aichelmann’s invention since a person of ordinary skill in the art understands that a threshold value can be a fixed value or a range of values.

Regarding claims 2-6, 11, 12, 21-26, 32 and 33, please see Paragraph #4 of the previous Office action.

As per new claim 34, Aichelmann also teaches the claimed method for controlling a magnetoresistive solid-state storage device having a plurality of storage cells for storing a block of ECC encoded data, comprising:

accessing a set of the plurality of storage cells (column 4, lines 18-31 );

determining whether information is uncoverable from a block of ECC encoded data stored in the accessed storage cells (column 4, lines 41-65); and

obtaining a parametric value for each of the set of storage cells, and comparing each parametric value against a range or ranges (column 4, lines 53-57). As per the step of “comparing each

parametric value against a range or ranges”, this limitation is well within the scope of

Aichelmann’s invention since, as mentioned above, a person of ordinary skill in the art understands that a threshold value can be a fixed value or a range of values.

***Response to Arguments***

7. Regarding claims 1-6, 11, 12, 21-26 and 34, Applicant basically argues, in the form of a question, that Aichelmann does not teach anything about magnetoresistive solid-state storage devices.

In response to this argument, the Examiner contends that the **preamble** language in claims 1, 25 and 34 “A method for controlling a magnetoresistive solid-state device ...” does not limit the scope of the claim because:

- the phrase is not essential to understand limitations or terms in the body of the claim;
- the body of the claim defines a structurally complete invention;
- the phrase is merely an intended use for the claimed method

8. Regarding claim 32, Applicant argues, again in the form of a question, that Aichelmann does not teach “at least one array of magnetoresistive storage cells”.

Here the limitation “at least one array of magnetoresistive storage cells” must be given patentable weight because it is also found in the body of the claim. However, even when incorporated in the body of the claim, this limitation does not obviate the 35 U.S.C. 102 rejection of claim 32 since it is well within the scope of Aichelmann’s invention. A magnetoresistive storage device is nothing but a non-volatile solid-state storage device, and a person of ordinary skill in the art understands that Aichelmann’s invention can be applied to both non-volatile and volatile storage devices.

***Conclusion***


9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel L. Moise whose telephone number is (571)272-3865. The examiner can normally be reached on M-W (9:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Emmanuel L. Moise  
Primary Examiner  
Art Unit 2136